

Applicant: KADOYA, Minoru
Serial No.: 10/810,693
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AMENDMENTS TO THE CLAIMS

Please add or amend the claims to read as follows, and cancel without prejudice or disclaimer to resubmission in a divisional or continuation application claims indicated as cancelled:

CLAIMS

1. (Currently Amended) A solid state laser, comprising:
 - a laser resonator including an output mirror, a laser crystal containing rare earth ions and at least one reflecting mirror, said output mirror, laser crystal and reflecting mirror being arranged along an optical axis,
 - a laser diode for emitting pumping light;
 - a pumping optical system for focusing pumping light emitted from said laser diode onto said laser resonator coaxially with said optical axis;
 - wherein said laser crystal comprises a plurality of individual laser crystals arranged along said optical axis, said individual laser crystals being each made of a material having a composition expressed by a same chemical formula and having progressive higher concentrations of said rare earth ions from crystal to crystal toward said output mirror; and
 - wherein said individual laser crystals are provided with a common heat sink for removal of heat; and wherein said heat sink is positioned adjacent to the surfaces of said laser crystals that are parallel to said optical axis.
2. (Original) A solid state laser according to claim 1, wherein said individual laser crystals are disposed in close mutual contact.
3. (Original) A solid state laser according to claim 1, wherein said individual laser crystals are integrally bonded to each other.
4. (Original) A solid state laser according to claim 1, wherein said individual laser crystals are spaced from each other by a gap substantially smaller than a length of a shortest one of said individual laser crystals.
5. (Cancelled)

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6. (Original) A solid state laser according to claim 1, wherein said individual laser crystals are made of a material selected from a group consisting of YVO_4 , $\text{Y}_3\text{Al}_5\text{O}_{12}$ (YAG), LiYF_4 (YLF) and GdVO_4 .
7. (Original) A solid state laser according to claim 1, wherein said rare earth ions consist of neodymium ions.
8. (New) A solid state laser according to claim 1, wherein heat generated by said individual laser crystals is removed through said heat sink in a direction substantially perpendicular to said optical axis.
9. (New) A solid state laser according to claim 1, wherein said individual laser crystals are held by said heat sink.